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AN INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS

By:

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2025

DECLARATION

I, MICHELLE KASO MPOSI, do hereby declare that this dissertation titled "**AN INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS** " which is hereby submitted to the University of Lusaka School of Law in partial fulfilment of the requirements for the award of the degree of Bachelor of Laws (LLB) is my original work and has not hitherto been submitted for the award of a degree at the University of Lusaka or any other tertiary institution.

The sources that have been used or quoted have been indicated and duly acknowledged as complete references.

Signature: … ……

Date: ……..

SUPERVISOR'S RECOMMENDATION

I RECOMMEND THAT THIS OBLIGATORY ESSAY UNDER MY SUPERVISION

BY

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ENTITLED

AN INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS

Be accepted for examination. I have checked it carefully and I am satisfied that it fulfils the requirement pertaining to the format laid down in the regulations governing directed research.

Supervisor: MR ANDREW CHAKANIKA

Signature: .....

Date: .....

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DEDICATION

I dedicate this dissertation to my mother and siblings, Mrs Scholastica C.C. Mposi, Temwanani Mposi and Laura Mposi

Table of Contents

ABSTRACT

This thesis was on the Zambia's progress toward achieving Sustainable Development Goal 6 (SDG 6) on water and sanitation by 2030, focusing on the legal and institutional frameworks that shape sectoral performance. The purpose of this study was to understand the current progress for SDG 6 in Zambia while also analysing the challenges and opportunities to achieve sustainable development goal 6 BY 2030. The objectives of this study included providing the current progress of Zambia towards SDG 6 in law, policies and implementation, secondly the legal, institutional and governance challenges Zambia is facing to achieve the SDG 6 by 2030 and potential strategies that could overcome the challenges and lastly, to provide a detailed analysis on Rwanda's and South Africa's legal framework and institutional framework governing water and sanitation and draw lessons from the same.

The methodology of this study was as follows; this research was a qualitative mode of research as data was collected from both primary and secondary sources which include, local and foreign legislation, textbooks, journal articles, internet sources and text books.

The major finding of this research was that the basis of the water and sanitation sector that is governed by the water supply and sanitation act, the public health act, the water resources management act and the environmental management act which are not implemented well to reach the international goal for availability of water and access to sanitation by 2030.

TABLE OF STATUTES

The Constitution of South Africa

The Environmental Management Act of 2011

The Law Determining the Use and Management Water Resources No.49 of 2018 of Rwanda

The Law on Environment No. 48 of 2018 of Rwanda

The Public Health Act Chapter 295 of the Laws of Zambia

The Regulation Governing Faecal Sludge Management in Rwanda

The Water Resources Management Act of 2011

The Water Services Act of South Africa

CHAPTER ONE

1.0. INTRODUCTION

Access to clean water and adequate sanitation is essential for public health, sustainable development, and the fulfilment of human rights. Recognizing this, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development in 2015, with Sustainable Development Goal 6 (SDG 6) specifically focused on ensuring the availability and sustainable management of water and sanitation for all. SDG 6 comprises seven interconnected targets: universal access to safe drinking water, adequate sanitation and hygiene, improved water quality and wastewater treatment, enhanced water-use efficiency, integrated water resources management, protection of aquatic ecosystems, and strengthened international cooperation and community engagement[1]. These targets collectively signify a paradigm shift from treating water access as a developmental concern to affirming it as a human right[2].

Although SDG 6 has gained widespread global commitment, progress in Zambia remains uneven. Despite its abundant freshwater resources, the country continues to face major infrastructure challenges across rural, peri-urban, and urban areas, limiting access to clean water and sanitation. Climate change has intensified water insecurity through frequent droughts, floods, and erratic rainfall. At the same time, limited financial resources and fragmented institutional mandates across ministries and regulators have undermined service delivery and policy coherence. These systemic issues have widened urban–rural disparities and disproportionately affected marginalized communities, underscoring the urgent need for coordinated, inclusive, and resilient solutions.

Over the past decade, Zambia has introduced several legal and policy instruments to address these challenges, including the Water Resources Management Act of 2011[3], the

[1] UN Water, Integrated Monitoring Guide for SDG 6: Targets and global indicators. Available at: SDG-6-targets-and-global-indicators_2016-07-19.pdf. Accessed on 27 August 2025

[2] UN Water, Human rights to water and sanitation. Available at: Human Rights to Water and Sanitation | UN-Water. Accessed on 27 August 2025.

[3] Act No 21 of 2011

Environmental Management act of 2011[4],the National Water Policy, the National Water and Sanitation policy and various sectoral strategies. Despite continuous attempts, Zambia's progress towards SDG 6 is hampered by issues relating to climate change, growing urbanisation, insufficient institutional capacity, poor intersectoral coordination, poor financing, and a lack of alignment between national legislation and international commitments. Major gaps persist, including the lack of legal recognition of water and sanitation as enforceable human rights, weak accountability mechanisms, limited integration of regional frameworks like SADC Protocol on Shared Watercourses[5] and the African Water Vision 2025[6], and inadequate incorporation of SDG 6 targets into national law.

This dissertation offers a timely analysis of Zambia's progress toward SDG 6 at the midpoint of the 2015–2030 agenda. With climate change intensifying pressure on water resources, there is an urgent need to strengthen legal and policy frameworks. Zambia's ongoing review of its water, sanitation, and climate policies presents a strategic moment for academic input. This study critically examines governance structures across national, regional, and international levels, addressing a key gap in both research and policy reform.

1.1. BACKGROUND OF THE STUDY

Access to clean water and adequate sanitation is a fundamental human right and a cornerstone of public health and development. Zambia has made notable progress in urban areas, supported by legal instruments such as the *Water Resources Management Act*[7] *(2011)*, the *Public Health Act*[8], and the *Environmental Management Act (2011)*[9]. However, despite these frameworks, Zambia's rural and peri-urban populations continue to face significant challenges. As of 2024, only 49.6% of rural residents have access to

[4] Act No. 12 of 2011
[5]SADC, SADC Protocol on shared watercourses 2000. Available at: Revised Protocol on Shared Watercourses 2000 - English | SADC. Accessed on 28 Aug. 25
[6] UN water/Africa, African Water Vision 2025. Available at: The Africa Water Vision for 2025: Equitable and Sustainable Use of Water for Socioeconomic Development. Accessed on 28 August 2025.
[7] Act No. 21 of 2011
[8] Chapter 295 of the laws of Zambia
[9] Act No. 12 of 2011

basic drinking water, and just 28% have basic sanitation, figures that fall short of the SDG 6 target of universal access to *safely managed* services. These gaps are compounded by aging infrastructure, limited financing, and fragmented institutional coordination among agencies responsible for water and sanitation.

Comparative evidence from countries like Rwanda and South Africa highlights Zambia's lag in meeting SDG 6. Rwanda has achieved over 84% access to basic sanitation through centralized governance and community-led initiatives[10].In contrast, Zambia's decentralized service delivery, underfunded infrastructure, and limited public-private partnerships hinder its ability to replicate such successes. Moreover, Zambia's monitoring systems lack the digital tools and real-time data platforms needed to track progress effectively.

To close these gaps, Zambia should improve institutional coordination, invest in rural infrastructure, and adopt proven global practices like Rwanda's and South Africa's regulatory reforms. Strengthening data systems and aligning standards with WHO and UNICEF will be key to accelerating progress toward safe, equitable water and sanitation by 2030.

1.2. STATEMENT OF THE PROBLEM

Zambia remains off track in achieving Sustainable Development Goal 6 (SDG 6), which calls for universal access to clean water and sanitation by 2030. Despite adopting key frameworks such as the National Water Supply and Sanitation Policy (2020), the National Rural Water Supply and Sanitation Programme (NRWSSP) 2019–2030, and the newly launched National Water Policy (2024), implementation has been hindered by fragmented institutional coordination, underfunded infrastructure, and limited regulatory enforcement. **The Water Resources Management Act**[11]provides for sustainable water governance through the Water Resources Management Authority (WARMA) and section 8(1) of the act[12] provides for the functions of the WARMA which is to promote and adopt a dynamic,

[10] Ministry of Infrastructure (Rwanda), National Strategy for Transformation: Water and Sanitation Sector Report (Government of Rwanda, 2023).
[11] Act No. 21 of 2011
[12] ibid

gender-sensitive, integrated, interactive, participatory and multisectoral approach to water resources management and development that includes human, land, environmental and socio economic considerations, especially poverty reduction and the elimination of water borne diseases, including malaria. aligns with SDG 6 by promoting integrated, gender-sensitive, and participatory water resources management that addresses ecosystem protection, poverty reduction, and the elimination of waterborne diseases, thereby advancing universal access to safe, sustainable water and sanitation. While **the Environmental Management Act**[13]mandates pollution control and environmental protection under section 46 of the act[14] which states that a person shall not discharge or apply any poisonous, toxic, eco-toxic, obnoxious or obstructing matter, radiation or other pollutant, or permit any person to dump or discharge such matter or pollutant into the aquatic environment in contravention of water pollution control standards established by the Agency in liaison with the relevant appropriate authority. This section reinforces SDG 6.3 by legally prohibiting the discharge of pollutants into aquatic environments, thereby safeguarding water quality and public health. However, these laws lack strong integration with sanitation governance and do not adequately regulate non-sewered sanitation or faecal sludge management. Although Zambia has aligned its frameworks with international instruments such as the SDGs, Agenda 2063, and the Protocol on Water and Health, domestication remains partial, with limited uptake of global standards in enforcement, monitoring, and financing mechanisms.

Inadequate access to safe water and sanitation in Zambia fuels cholera and diarrhoeal outbreaks, disproportionately harming rural and peri-urban populations and undermining health equity, gender inclusion, and poverty reduction. With only 18% of households having handwashing facilities, systemic vulnerabilities persist, threatening community dignity, education, productivity, and climate resilience.

With 2030 fast approaching, Zambia must urgently evaluate its progress on SDG 6, address legal and institutional gaps, and draw on global best practices. The National Water Policy (2024) outlines key priorities like infrastructure, rainwater harvesting, and

[13] Act No. 12 of 2011
[14] ibid

cross-sectoral coordination, but without stronger accountability and financing, these goals risk falling short. By learning from successful international models, this research aims to bridge the gap between policy and practice, offering a timely opportunity to realign national efforts with global standards and ensure that no one is left behind.

1.3. GENERAL OBJECTIVE

1. To explore the challenges and opportunities Zambia faces in achieving Sustainable Development Goal 6 by the year 2030, and to draw lessons from international standards that can support progress.

1.3.1. RESEARCH OBJECTIVES

1. To Assess Zambia's progress towards SDG 6 in law, policy and implementation

2. To identify and analyse the legal, institutional and governance challenges

3. To draw lessons from international standards and best practices to strengthen Zambia's framework.

1.3.2. RESEARCH QUESTIONS

1. What is the current progress of Zambia towards SDG 6 in law, policy and implementation?

2. What are the legal, institutional and governance challenges Zambia is facing to achieve SDG 6 by 2030 and what potential strategies could overcome the challenges?

3. What lessons can Zambia learn from international legal and institutional frameworks to enhance its policies for achieving SDG 6 by 2030?

1.4. SIGNIFICANCE OF THE STUDY

The study has significance because it examines how national frameworks and practices reflect international commitments on water and sanitation, thereby addressing gaps in Zambian legal and policy studies on SDG 6. By evaluating current laws, organisations, and coordination systems, it provides policy relevance and makes recommendations to improve governance and hasten development. By emphasizing possibilities, difficulties, and best practices to inform advocacy, investment, and program design, the research

also has practical value for NGOs, communities, and international partners. In the end, it advances scholarly understanding as well as the creation of better laws and programs to increase Zambians' access to clean water and sanitary facilities.

1.5. SCOPE OF THE STUDY

This study assesses Zambia's progress toward SDG 6, focusing on improved sanitation and access to clean water, with particular emphasis on underserved rural and peri-urban communities. It reviews key legislative and policy instruments including the Water Resources Management Act (2011), Public Health Act, Environmental Management Act (2011), and national initiatives, against international benchmarks. Covering the period from 2015 to 2025, with a view to the 2030 deadline, the study explores climate, infrastructure, and legal challenges, excluding conflict-related water issues. It relies primarily on secondary sources such as government data, policy documents, and reports.

1.6. LITERATURE REVIEW

There have been several literally works that have been written regarding the sustainable development goal 6: clean water and sanitation as well as the legal framework of water and sanitation. These works include:

Hamidullah Aman[15], mentioned in the survey on the challenges for achieving SDG 6 that there are numerous challenges on the way to implement SDG 6. Among those, one of the primary challenges in reaching this goal is the inadequate infrastructure for providing clean water and sanitation in many regions. In some areas, there is a lack of sufficient clean drinking water sources and limited access to proper sanitation facilities, which contributes to continued practices such as open defecation. furthermore, climate change further exacerbates the challenges of managing water resources. Lack of safe drinking water is a significant problem due to climate change. The increasing number and severity of storms, floods, and droughts are worsening water scarcity in many regions. As surface water resources are reducing, dependence on underground aquifers increases, which leads to the reduction of groundwater levels. Extreme weather events, such as

[15] Hamidullah Aman, 'survey on challenges for achieving SDG 6: Clean water and sanitation: A global insight' 2024

unusually heavy rainfall, can overload both natural and human made storage systems, leading to put further pressure on water supplies.

Jaivime Evaristo[16], opined that ensuring the provision of adequate WASH services, let alone capacity expansions driven by growing demand. The funding landscape also reveals significant regional disparities among end users. Much of the Global South grapples with funding shortages for critical water projects. For instance, in Southern Africa, there's a noticeable deficit in investments for WASH services. This shortfall intensifies existing access inequities and contributes to adverse health outcomes. The African water sector is further hamstrung by the chronic under-pricing of water. Tariffs, in principle, should help narrow the expenditure gap. Paradoxically, water tariffs in Africa are already relatively high, even compared to other developing regions. Thus, implementing higher tariffs may exacerbate water insecurity unless buttressed with measures that combat poverty. Furthermore, Inequality in funding further exacerbates these challenges. Funding often disproportionately favours urban areas, leaving rural regions, where the need may be greater, underfunded. Economic instability and high levels of national debt can make it difficult for countries to secure additional funding for water and sanitation pro jects. Moreover, while the water sector does provide both public and private benefits, many cannot be easily monetized, which limits potential revenue streams.

Hutton and Varughese[17], mentioned that Safe drinking water, sanitation, and hygiene (WASH) are fundamental to an improved standard of living. achieving a higher level of services called here "safely managed" water and sanitation services requires additional financing on the order of three times current spending which requires funding to reach the goal for clean water and sanitation. This value only covers extending safely managed services to the currently unserved (in 2015) and that there's need for a deeper analysis on the costs required to secure water in bulk for drinking and domestic water purposes,

[16] Jaivime Evaristo, Yusuf Jameel, Cecilia Tortajada, Raymond Yu Wang, James Horne, Howard Neukrug, Carlos Primo David, Angela Maria Fasnacht, Alan D. Ziegler and Asit Biswas. 'Water woes: the institutional challenges in achieving SDG 6 2023. Available at: Water woes: the institutional challenges in achieving SDG 6 | Sustainable Earth Reviews | Full Text

[17] Guy Hutton and Mili Varughese, 'The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene' 2016 available at : https://documents.worldbank.org/en/publication/documents-reports/documentdetail/415441467988938343

to provide wastewater drainage as well as sewerage systems, to implement behavioural change programs to reach the hard to reach, and to sustain hygienic practices. Many communities depend on donor funded projects, which can be helpful but aren't always reliable long-term. In some places, water tariffs are meant to help pay for maintenance, but they are either not collected consistently or are too low to make a real impact.

This research will among others address the challenges of achieving sustainable development goal 6: clean water and sanitation for all while also putting into consideration on how one can achieve the goal by 2030. Financing of the programs created to achieve SDG 6 has been a problem for many developing and underdeveloped countries.

Chitonge, Mokoena and Kongo[18], stated that in although different African nations have distinct difficulties in addressing the safe water and sanitation for all, the enormous gaps among rural and urban areas constitute a shared problem. However, with regard to the progress made in relation to the SDGs. Chitonge found that Sub Saharan Africa (SSA) is making insufficient progress toward achieving SDG 6 and that the effort and activities of the central and local government to improve access to water and sanitation cannot be over emphasized; frequent power cuts which affect the pump stations of water supply facilities was a major factor which affect access to water and proper sanitation. A significant section of the population still engages in open defecation and had no access to hygiene services as at 2020. Different ministries and agencies are involved in water and sanitation, but they do not always work together very well. councils who are supposed to deliver many of these services are often under resourced and overburden, which makes it difficult for them to do their job.

UN Water/Africa[19], The Africa Water Vision 2025 provided that Water has a vital role to play in responding to the socio-economic crisis facing Africa. Although several economic instruments are being deployed to address this crisis, the success of these efforts will depend heavily on the availability of sustainable water resources. On the other hand,

[18] Chitonge H, Mokoena A, Kongo M. 'Water and sanitation inequality in Africa: challenges for SDG 6. In: Ramutsindela'

[19] The UN water/Africa, the African water vision for 2025: Equitable and sustainable use of water for socio economic development. Available at: afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/african water vision 2025 to be sent to wwf5.pdf . Accessed on 31 August 2025.

success in economic development efforts is needed to ensure a sustainable flow of funds for the development of water resources. This interdependence between water availability and development is exemplified by the link between water and poverty. Due to poverty, access to adequate water and sanitation is low in Africa. Yet due to the inadequate access to safe water and sanitation, there is a high incidence of communicable diseases that reduce vitality and economic productivity on the continent. Nevertheless, Extreme spatial and temporal variability of climate and rainfall on the continent is one of the significant features of water resources in Africa, with far-reaching consequences for water-resources management. For instance, In Southern Africa, the Lake Malawi basin, Southern Tanzania, and northern Madagascar have become wetter in the last 30 years. This is in contrast to the situation in Mozambique, southeast Angola and western Zambia, which have become significantly drier over the same period.

The Africa Water Vision 2025 has also provided ways to move forward regardless of the challenges that are being faced in order to achieve the SDG 6 goal. These include; Creating an enabling environment for international cooperation, responding to immediate water problems, Creating frameworks for integrated water-resources management and many others.

Sanjeeb Mohapatra[20], on the shifting paradigms for safe drinking water mentioned that many developing and under developing countries have a lower percentage of the access to safe drinking water and Chlorination was introduced to be used in water and has become a disinfection strategy that is commonly practised in many parts of the world due to its potential to kill pathogens, including bacteria and viruses, its efficient residual effect against future contamination, ease-of-use, acceptability, and most importantly, scalability and low cost. However, chlorination of drinking water comes with several drawbacks, most importantly, the formation of carcinogenic disinfection by-products (DBPs).

[20] Sanjeeb Mohapatra, 'Shifting paradigms for safe drinking water in low- and middle-income countries ' 2022 available at: Shifting paradigms for safe drinking water in low- and middle-income countries - IWA Network Accessed on 11th April 2025.

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF)[21], WHO and UNICEF have worked together and created the Joint Monitoring Programme (JMP) and the two organisations stated in their report that People living in fragile contexts often have much lower water, sanitation and hygiene (WASH) service levels and will need to be a major focus of efforts to accelerate progress towards the 2030 SDG targets. It further states that sewered sanitation or non-sewered (on-site) sanitation technologies can be safely managed, but the information needed for classification is different. Households with sewered sanitation are considered to have safely managed services if the blackwater flushed out of the household is transported to an off-site treatment plant where it receives secondary or higher-level treatment. This reduces the levels of unhygienic latrines in households and even though in the rural areas people are said to still use pit latrines which is still a working progress on the sanitation for all target. The importance of safe sanitation extends far beyond mere convenience; it is fundamental to public health and community stability. The WHO has also provided guidelines on sanitation and health [22] which offers practical steps for making sure water is safe from source to tap. These guidelines promote what's called Water Safety Planning, a protective way to manage risks by identifying potential contamination points before they become a health threat.

Sarah L. Smiley[23]**,** opined that in 2022, Zambia implemented its Zambia Water Investment Programme (ZIP), with the goal of bolstering the country's economy and increasing both human and social development. A key aspect of ZIP is the investment of at least USD5.75 billion to achieve SDG water targets through the provision of new infrastructure. Water is viewed as the "overall enabler for sustainable socio-economic development in Zambia". ZIP's focus on sustainable water and sanitation for community resilience seeks to improve infrastructure in both urban and rural areas in order to make progress toward meeting the SDGs. Despite these development initiatives, Zambia's water and sanitation indicators lag behind both the Sub-Saharan African region and the

[21] Progress on household drinking water, sanitation and hygiene 2000-2020: five years into the SDGs. Geneva: World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), 2021. Available at:
[22] . Guidelines on sanitation and health. Geneva: World Health Organization; 2018.
[23] Smiley, S.L.; Subulwa, A.G.; Herald, S. Spatial Barriers to Improved Water and Sanitation in Rural Zambia. Water 2025, 17, 2132. Available at: https://doi.org/10.3390/w17142132 . Accessed on 30th August 2025.

world. In Zambia, location is a major factor in water access. The highest level of access to access. The highest level of access to improved water is found in Lusaka, reflecting the fact that many development projects have been focused on the capital rather than rural areas.

Sydney C. Hubbard, Meltzer, M.I., Kim, S. *et al.* [24], opined that 'in their findings of the peri-urban Lusaka, Zambia suggest that waterborne illness, diarrheal illness, and respiratory illness were positively associated with socioeconomic related factors such as larger household size (especially having young children in the household), renting homes, and higher household expenditures. Additionally, for waterborne illness and diarrheal illness, WASH-related indicators including not using soap when handwashing, not covering all household water storage containers, using an unimproved sanitation facility, heavy toilet sharing, and higher water consumption for all purposes were identified as risk factors.

1.7. RESEARCH GAP

Zambia's progress toward SDG 6 is hindered by misaligned laws, weak enforcement, poor coordination, and limited data and funding, with vulnerable groups facing unequal access. Climate resilience is underdeveloped. Existing studies focus on policy and infrastructure; this research uniquely analyses Zambia's laws against international standards.

1.7.1. RESEARCH METHODOLOGY

This research shall be carried out in the form of a qualitative analysis with reference made to statutes, books, articles, journals, and reports relating to sustainable development goal 6. The criteria used to select the other jurisdictions of this investigation is considering different factors for the different jurisdictions. Firstly, all the jurisdictions selected use a common law legal system. Rwanda is chosen because, as of 2025, it is one of the leading African countries doing well in the Sustainable development goal 6. While South Africa has better legal and institutional framework in terms of the water resource management

[24] Hubbard, S.C., Meltzer, M.I., Kim, S. *et al.* Household illness and associated water and sanitation factors in peri-urban Lusaka, Zambia, 2016–2017. *npj Clean Water* **3**, 26 (2020). Available at: https://doi.org/10.1038/s41545-020-0076-4 Accessed ON THE 16TH April 2025.

and sanitation which is one of the challenges Zambia is currently facing in order to achieve the SDG 6 goal.

1.7.2. RESEACH APPROACH

This research shall be carried out in the form of a qualitative approach and analysis through relevant perspectives in relation to the topic use of online research and with reference being made to statutes, books, articles, journals and reports particularly in relation to Sustainable Development Goal 6 (SDG 6).

1.7.3. RESEARCH DESIGN

This study adopts a comparative study design that will be focusing primarily on Zambia but drawing insights from international benchmarks and selected examples of best practices. It will analyse this data to pick out the short falls and find the best way to fix them as well as compare them to those in Rwanda and South Africa so as to identify gaps and inadequacies, so as to determine the capacity of the laws in place to combat the issue present and draw lessons from existing practices and laws of Rwanda and South Africa.

1.8. ETHICAL CONSIDERATIONS

This research shall be in line with all essential ethical standards that shall be encountered during the period of carrying it out. The research will make sure that all the information and knowledge obtained in confidence in the pursuit of this research shall continue to be confidential and therefore, there shall be no form of misinformation and misuse of the said information. The researcher will endeavour to follow academic writing principles like referencing and acknowledgement of other people's works.

1.9. CONCLUSION

This chapter fills a critical gap by examining how Zambia's water and sanitation frameworks align with international standards under SDG 6. While global benchmarks offer clear guidance, Zambia faces persistent challenges in governance, financing, and enforcement. By drawing lessons from successful international models, the research contributes academically through comparative analysis and practically by offering policy recommendations to strengthen coordination, equity, and sustainability in service delivery.

1.10. TIME TABLE

ACTIVITY	DATE	DURATION
Submission And Completion of Chapter 1	28th July 2025	2 weeks
Submission Of Chapter 2 to supervisor	15th August 2025	2 weeks
Submission of Chapter 3 to supervisor	5th September 2025	3 weeks
Submission of Chapter 4 to supervisor	3rd October 2025	1 month
Submission of Chapter 5 to supervisor	23rd October 2025	3 weeks
Submission of first draft to supervisor	31st October 2025	1 week
Submission of Second Draft to supervisor (if need be)	7th November 2025	1 week
Deadline for submission of soft copy dissertation	14th November 2025 (as per UNILUS academic calendar)	1 day

CHAPTER TWO

THE CURRENT PROGRESS OF ZAMBIA TOWARDS SDG 6 IN LAW, POLICY AND IMPLEMENTATION

2.1. INTRODUCTION

sustainable development goal 6 (SDG 6) is an ambitious target comprising of eight specific indicators which include; universal access to safe drinking water (6.1), adequate sanitation and hygiene (6.2), improved water quality through pollution reduction (6.3), water-use efficiency (6.4), integrated water resources management (6.5), and lastly protection of water-related ecosystem (target 6.6)[25].

This chapter will evaluate Zambia's actual progress toward achieving SDG 6 by exploring both the legal and policy frameworks governing water and sanitation and, critically, their implementation outcomes. This analysis will link each legislative instrument to specific SDG 6 targets and weighs whether Zambia's laws have rendered into measurable improvements in the water access, water quality, sanitation coverage and sustainable water resource management. With an evaluative assessment, the chapter concludes whether Zambia is on track to meet the goal by 2030.

2.2. BASELINE: ZAMBIA'S WATER AND SANITATION SITUATION

To effectively evaluate progress, it is important to fathom Zambia's starting point and current status against SDG 6 indicators

2.2.1. Assess to Water and Sanitation (6.1 and 6.2)

As of 2024, Zambia faces serious disparities in water and sanitation access. While approximately 90% of households (urban) have access to improved water sources and only 53% is that of rural households[26]. The national average obscures this urban-rural

[25] United Nations, Sustainable Development Goal 6, available at: https://sdgs.un.org/goals/goal6 (accessed 13 September 2025).

[26] World Vision, Water, Sanitation and Hygiene in Zambia, available at: https://www.wvi.org/zambia/water-sanitation-and-hygiene-0 (accessed 13 September 2025).

divide, with only 32% of Zambians having access to basic water services when weighed against SDG standards[27].

What is more concerning is the sanitation situation. National access to improved sanitation stands at 40% approximately, but this drops to 15% in rural areas compared to 70-73% of urban centres[28]. As of 2015, the baseline year of the goal, only 31% of Zambians had access to “at least basic sanitation” i.e. 49% in urban areas and 19% in rural areas, leaving approximately 11,000,000 people without basic sanitation facilities. Although reduced, open defecation remains a major challenge in rural communities.

These figures clearly demonstrates that Zambia began their SDG era significantly behind global averages (which represented a 69% for safely managed drinking water and 49% for sanitation in 2015) and has only made modest progress since then[29].

2.2.2. Water Quality and Pollution (6.3)

Inadequate wastewater treatment, agricultural runoff, and water pollution from mining poses a persistent threat to water quality in Zambia. The calamitous cholera outbreak of October 2023 to March 2024. This was the worst in Zambian history with over 699 deaths and 20,577 cases[30], starkly illustrated the consequences of inadequate water and sanitation infrastructure. The outbreak affected 71 districts highlighted and critical failures in water management, particularly in peri-urban areas where destitute WASH facilities, insufficient wastewater treatment and contaminated water sources created ideal conditions for disease transmissions[31].

The outbreak was exacerbated by infrastructure failures, including a 2-month water service disruption in Lusaka in September 2023 as a result of emergency pipeline

[27] World Vision, Water, Sanitation and Hygiene in Zambia (2024). Accessed on 8th November 2025.
[28] Ibid.
[29] UN SDG Report 2025, Goal 6 Progress, available at: https://unstats.un.org/sdgs/report/2025/Goal-06/ (accessed 6 November 2025).
[30] Ministry of Health Zambia, Ministerial Statement on the Cholera Outbreak in Zambia (1 March 2024), available at: https://www.moh.gov.zm (accessed 13 September 2025).
[31] Sasaki et al., "Geospatial analysis of cholera outbreak in Lusaka, Zambia, between 2023 and 2024," Tropical Medicine and Health (March 2025).

repairs[32]. This catastrophe underscored that despite having legal frameworks for the protection of water quality, implementation and enforcement remain critically scarce.

2.3. THE ZAMBIAN WATER AND SANITATION LEGAL FRAMEWORK

2.3.1. THE WATER RESOURCE MANAGEMENT ACT

The Water Resources Management Act is purposed to provide for the management, conservation, development, protection and preservation of the water resource and its ecosystems; reasonable and sustainable utilization of the water resource and to guarantee adequate and sustainable water access for all members of society[33]. It is also considered to be the most comprehensive modern framework for governance and directly addresses multiple SDG 6 targets.

A. Section 6 – Principles governing water resource management

Zambia's approach to water resource management is built on principles that promote sustainability, equity, and public welfare[34]. prioritizing domestic and non-commercial water as a fundamental human need, promoting equity and public health align well with SDG 6 targets. The categorical recognition that water for domestic use should be free of charge directly supports target 6.1.

B. Section 7 and 8 – WARMA'S establishment and its functions

The water Resources Management Authority (WARMA), entrenched under section 7, serves as the primary regulatory for water resources. Its mandate includes integrated water resources management (6.5), ensuring equitable water allocation (6.1 & 6.4) and pollution control (6.3)[35].

However, its effectiveness has been limited by systematic challenges. Recently, the minister of water development and sanitation minister acknowledged that "while Zambia's legal frameworks provide for penalties under the Water Resources Management Act No.

[32] Zambia Institute for Policy Analysis and Research, "Charting the Recurrence of the Cholera Outbreak in Zambia" (February 2024), available at https://www.zipar.org.zm (accessed 13 September 2025).
[33] Preamble, Water Resources Management Act 21 of 2011.
[34] Act 21 of 2011.
[35] About WARMA: Who we are. Available at https://www.warma.org.zm. Accessed on 12th September 2025.

21 of 2011, enforcement remains weak and must be urgently strengthened. It was further highlighted that WARMA should transform from a passive authority into a robust regulatory, enforcing penalties against illegal water abstraction and pollution with greater vigour, acknowledging increased pollution of streams and rivers from agriculture, industrial waste and mining as a growing national crisis.

This admission reveals a fundamental gap between legal provisions and implementation. While the act grants WARMA extensive powers to enforce standards, monitor water quality and to regulate pollution[36]. The Authority has had difficulties in exercising these powers efficiently. Insufficient political will, limited technical capacity and resource constraints have hindered enforcement, allowing pollution to continue largely unchecked thus, undermining progress towards target 6.3 which is improving water quality by reducing pollution.

C. Pollution control provisions (section 47- section 49)

Sections 47-49 establish comprehensive pollution control mechanisms, including ambient water quality standards, monitoring obligations, and penalties for water polluters (up to 100,000 penalty units or 1 year imprisonment). yet these provisions have had limited practical impact. The 2023-24 cholera outbreak demonstrated that pollution control remains ineffective, with contaminated water sources directly contributing to disease transmission. WARMA had only began implementing ambient water standards in 2022[37], more than a decade after the Act's passage, and monitoring and enforcement remains sporadic

Evaluative Assessment: The Act provides a strong legal foundation for SDG 6 implementation, particularly for 6.3, 6.5, and 6.6 However, poor enforcement and weak institutional capacity have presented the Act from achieving its intended outcomes. Zambia possesses good laws on paper but lacks the implementation machinery to translate them into tangible progress.

[36] Section 47-49 of the act.
[37] WARMA, Water Quality & Environment, available at: https://warma.org.zm (accessed 13 September 2025).

2.3.2. The Water Supply and Sanitation Act and Service Delivery

This piece of legislation aims to ensure the efficient, sustainable, and regulated provision of water and sanitation services across the country. The act also establishes the National water supply and sanitation council (NWSSC)[38]. The council's mandate includes developing guidelines for water supply and sanitation services and establishing utilities[39].

Implementation Reality vs. legislative Intent

Although the act created a regulatory framework, its 1997 vintage means it predates the SDG era and does not align with modern service delivery challenges. More critically, the Act's implementation has failed to produce universal coverage. As of 2024:

- Only 25% of the population in Lusaka is connected to formal water and sanitation infrastructure, despite the city's 40.6% population growth between 2010 and 2022[40].
- Water lost through theft, leakage or metering inaccuracies stand at 47%,indicating massive inefficiencies in water utilities' operations[41].
- 6/9 licences commercial utilities only achieved operational cost recovery by 2006, suggesting ongoing financial unsustainability.

The 2024 "Utility of the future" program by the world bank, which has worked with all eleven Zambian water utilities, was designed precisely because ineffectual commercial water utilities are abating progress in service coverage[42]. he program identified that Zambia's traditional infrastructure-centric approach neglected financial viability, operational efficiency and governance-issues the 1997 act does not adequately address.

Evaluative Assessment: the water supply and sanitation act has created regulatory institutions but has not driven the expansion of services necessary to achieve universal

[38] Section 3 of the Water supply and sanitation act.
[39] Section 4 ibid.
[40] Zambia Institute for Policy Analysis and Research (February 2024).
[41] UNICEF Zambia, WASH Budget Brief 2024, page 3.
[42] World Bank Blogs, "Pioneering a future-ready water and sanitation sector in Zambia" (June 2024), available at: https://blogs.worldbank.org (accessed 13 September 2025).

water access (target 6.1) universal sanitation access (target 6.2). The Act's age and limited provisions on service delivery standards, infrastructure expansion, and utility performance render it insufficient for SDG 6 implementation.

2.3.2. The Environmental Management Act (2011) and Water Quality

This is the main piece of legislation that provides for the sustainable management and protection of environment and natural resources. This act provides for the protection of the environment and pollution control. It also establishes the Zambian Environmental Management Agency (ZEMA)[43].

Overlap and Coordination Challenges- Both ZEMA and WARMA share responsibilities for water quality monitoring and pollution control, generating potential for coordination failures. Section 47(1) of the Act requires WARMA to work jointly with the environmental agency[44], at the same time section 48 of the EMA mandates ZEMA to regulate effluents discharges and formulate rules for thew protection of sensitive water sources.

In effect, this institutional overlap has resulted in fragmented enforcement. Neither agency has systematically monitored industrial and mining effluents, nor have they effectively prosecuted polluters. The 2023-24 cholera crisis revealed the consequences: sewage systems overwhelmed by flooding, untreated wastewater and contaminated boreholes entering water bodies[45].

Evaluative Assessment: The EMA provides complementary authority for water quality protection (6.3) but suffers from the same implementation weaknesses as the water resources management act. Institutional fragmentation between ZEMA and WARMA, combined with weak enforcement and limited resources, has prevented meaningful pollution reduction.

2.3.3. The Public Health Act and Sanitation Mandates

The purpose of this act is to provide for the protection and suppression of diseases and to regulate all matters connected with public health in Zambia. The act further places

[43] Section 7 of the EMA act 12 of 2011.
[44] The Authority shall, in collaboration with the Environmental Agency, recommend to the Zambia Bureau of Standards ambient water quality standards and ensure that the standards are maintained
[45] Ministry of health, ministerial statement, 1st march 2024. Accessed on 8th November 2025.

duties on local authorities to maintain cleanliness, prevent nuisances (including water pollution), and protect water supplies[46].

However, this legislation is extremely outdated and poorly enforced. Local authorities lack the financial resources, political authority and technical to fulfil these mandates. The cholera outbreak demonstrated this failure dramatically: peri-urban areas with poor drainage, contaminated water sources and inadequate sanitation became disease hotspots precisely because local authorities could not provide or maintain basic WASH services[47].

Evaluative Assessment: The public health act's provisions remain at great, theoretical. Local authorities' inability to implement sanitation mandates directly undermines adequate sanitation for all (target 6.2) and contributes to poor water quality (6.3).

2.4. National Policies: Ambition vs Implementation

2.4.1. The National Water Policy (2024)

The National Water Policy, development by the Ministry of Water Development and sanitation in 2024, represents Zambia's recent and comprehensive policy statement. It aims to achieve "national and water security and universal access to sanitation" by assimilation of water resource management and water supply/sanitation sub-sectors[48].

Policy Objectives and SDG 6 alignment

These 8 strategic objectives directly address SDG 6 targets; Cross-sectoral water resources planning (6.5), water security and universal access to improved water supply(6.1), resource mobilization (6.a), enhanced legal frameworks and institutional coordination(6.b), water access for socio-economic development, conservation and protection of water resources and ecosystems (6.6), adequate sanitation and hygiene services for all (6.2) and stormwater management an equitable water allocation (6.4 and 6.5)[49].

[46] Sections 65,67,78 of the Public Health Act.
[47] Sasaki et al., Tropical Medicine and Health (March 2025). Accessed on 8th November 2025.
[48] Ministry of water development and sanitation, National Water Policy. Available at: NATIONAL-WATER-POLICY-2024.pdf.page 18. Accessed on 13th September 2025.
[49] Ibid, page 20.

It is guided by principles including human dignity, good governance, equity, social justice, sustainable development and accountability[50] all consistent with SDG 6's rights-based approach.

Implementation Gap: nevertheless, policy ambition has not transliterated into budgetary commitment. In 2024, the budget in the WASH sector declined from K2.3 billion to k2.1 billion (6%) in 2023. An additional 18% decline in real terms[51] as a % of GDP, WASH spending dropped from 0.4% (2023) to 0.3% in 2024, far below the 5% targets suggested by the goal's financing needs[52].

This severe underfunding undermines all policy objectives. The planned infrastructure (1,270 rehabilitation boreholes, 1,347 boreholes, 100km of water distribution network, 30,000 house water connections) remains a problem given Zambia's access deficits and population growth[53]. Moreover, about 70% of the WASH sector budget depends on external partners, creating sustainability concerns and limiting government ownership of SDG 6 implementation[54].

Evaluative Assessment: although the policy demonstrates robust policy design and SDG 6 alignment but still faces chronic implementation constraints due to inadequate financing, limited monitoring systems, and institutional fragmentation. Without a hefty budget increase and improved coordination, the policy's objectives will remain aspirational rather than operational.

2.5. EVALUATIVE ANALYSIS

TARGET	STATUS	REASON
Safe and Affordable Drinking water for all (6.1)	Significantly off track	32% have access to basic water services and substantial urban-rural disparities (90% urban vs. 53% rural), Zambia would require dramatic acceleration to achieve the goal by

[50] Ibid, page 18.
[51] UNICEF Zambia, WASH Budget Brief 2024, page 1.
[52] Ibid, page 2.
[53] Zambia Institute for Policy Analysis and Research (February 2024).
[54] UNICEF Zambia, WASH Budget Brief 2024, page 3.

		2023. Data shows that Zambia will require sixfold increase in current progress rates.
Adequate Sanitation and Hygiene for All (6.2)	Critically off track	40% of national sanitation coverage and 15% in rural areas, an enormous gap. The cholera directly linked to inadequate sanitation and hygiene. Data shows that achieving universal safely managed sanitation will require a fivefold increase in progress. This marginal growth indicates that by 2030 the target is effectively unattainable without transformative investments.
Improve Water Quality by Reducing Pollution (6.3)	Regressing	Instead of increasing, water appears to be deteriorating. The minister's acknowledgement of increased pollution of rivers and streams in 2025 from agriculture, and industrial waste indicates regression on the target.
Water-Use Efficiency and Addressing Water Scarcity (6.4)	Limited Progress	47% of non-revenue water rates indicates massive inefficiencies. Although the utility of the future program aims to address this, systemic improvements in water-use efficiency have not yet materialized. Change in climate exacerbates water scarcity, yet water harvesting and storage initiatives are only beginning implementation.

2.6. CONCLUSION

Based on the analysis of Zambia's legal and policy frameworks, and the persistent implementation challenges including weak institutional coordination, inadequate financing, and limited enforcement capacity. It is evident that Zambia is currently lagging in its progress toward achieving SDG 6 by 2030. While the country has adopted several laws and policies aligned with global commitments, the gap between policy intent and practical execution remains wide. Without urgent and sustained efforts to strengthen implementation, improve accountability mechanisms, and invest in infrastructure and data systems, Zambia risks falling short of its SDG 6 targets.

CHAPTER THREE

THE LEGAL, INSTITUTIONAL AND GOVERNANCE CHALLENGES ZAMBIA IS FACING TO ACHIEVE SDG 6 BY 2030 AND THE POTENTIAL STRATEGIES THAT COULD OVERCOME THE CHALLENGES

3.1 INTRODUCTION

Achieving SDG 6 in Zambia by 2030 requires moving beyond a focus on infrastructure and financing alone. The fundamental barriers are deeply rooted in fragmented institutions, weak regulatory frameworks, and systemic governance failures.

This chapter critically analyzes these intertwined challenges to determine why they persist despite past reforms. It argues that progress in water and sanitation depends not merely on resources, but on the effectiveness of institutions, the coherence of laws, and the quality of governance. By identifying key bottlenecks and context-specific leverage points, the analysis provides a practical pathway to align legal reforms, strengthen institutions, and improve governance to accelerate progress toward SDG 6.

3.2 LEGAL CHALLENGES

3.2.1. FRAGMENTATION AND OUTDATED LEGAL FRAMEWORK

A fragmented legal framework refers to regulatory landscape characterized by multiple, often overlapping, inconsistent, or conflicting rules, norms, institution and in this case legal sources that govern a particular subject matter for example, the water and sanitation sector. Having a fragmented legal framework has affected Zambia in achieving sustainable development goals SDG 6 included.

A. Fragmentation and overlapping of legislation

Zambia's water and sanitation sector is governed by a fragmented legal regime, where separate statutes like the Water Supply and Sanitation Act[55] and the Water Resources Management Act[56] create overlapping mandates for bodies like NWASCO[57] and

[55] Act No. 28 of 1997.
[56] Act No. 21 of 2011.
[57] The National Water Supply and Sanitation Council, available at: https://www.nwasco.org.zm/ .

WARMA[58]. This lack of harmonization leads to institutional duplication, inconsistent policy, and blurred accountability.

This fragmentation persists because legal reforms are pursued in isolation by different ministries or donors, without a unifying national framework. For instance, both WARMA and ZEMA regulate water quality through separate mandates, causing duplicated inspections and confusion. This reflects a governance culture that prioritizes sectoral control over coordination, directly impeding the achievement of SDG 6 targets on water quality (6.3) and integrated management (6.5).

B. Outdated legislation

Outdated legislation further increases the problem. The public health act[59] does not adequately address emerging sanitation and hygiene challenges such as non-sewered sanitation, faecal sludge management, or modern water quality standards. Similarly, the water supply and sanitation Act[60] does not reflect current realities of population, growth, urbanisation, and climate change. The slow pace of legislative review reflects limited political prioritisation of water and sanitation issues as well as bureaucratic inertia in aligning national laws with international commitments such as the SDGs and the human right to water and sanitation.

3.2.2. WEAK ENFORCEMENT AND SANCTIONING PROVISIONS

Zambia's water sector suffers from consistently weak enforcement, even where laws exist. Penalty provisions in key acts are outdated and fail to deter non-compliance. This is an institutional failure: agencies like WARMA and ZEMA lack the funding, personnel, and political backing to prosecute offenders effectively.

For instance, delays in permits and inspections have led to widespread informal water abstraction and untreated waste discharge, especially from mining and agriculture. This demonstrates that the problem is not a lack of laws, but weak institutional authority and fragmented accountability. As a result, polluters face minimal consequences, while local

[58] The Water Resources Management Authority, available at: https://warma.org.zm/.
[59] CAP 295 of the laws of Zambia.
[60] Act No. 28 of 1997.

communities suffer from contaminated water sources, directly undermining SDG 6.3 on water quality and pollution reduction.

3.2.3 GAPS ON SANITATION, NON-SEWERED OPTIONS AND FAECAL SLUDGE MANAGEMENT

Zambia's critical legal gap in regulating non-sewered sanitation systems stems from legislation that only vaguely references sanitation without clearly assigning faecal sludge management responsibilities. This leaves peri-urban and rural populations dependent on unsafe practices. Although utilities bear formal responsibility, the absence of specific enforcement mechanisms prevents them from establishing proper service chains, revealing a structural bias toward sewered systems that neglects the reality of informal settlements and directly impedes progress toward SDG 6.2's goal of equitable sanitation for all.

3.3 INSTITUTIONAL CHALLENGES

3.3.1. OVERLAPPING MANDATES AND INSTITUTIONAL FRAGMENTATION

A primary institutional challenge to achieving SDG 6 in Zambia is the fragmentation and overlapping of mandates among key ministries and agencies governing water, sanitation, and the environment. The problem is not a lack of laws or institutions, but rather the poor coordination, duplicated functions, and weak accountability that arise from this fractured governance structure.

A. Multiplicity of institutions with overlapping responsibilities

Zambia's water and sanitation sector is governed by a complex network of institutions, including the MWDS[61], Ministry of Health[62], Ministry of Local Government[63], NWASCO[64], WARMA[65], and ZEMA[66]. While this framework is extensive, it has created unclear accountability, particularly in rural and peri-urban areas.

[61] Ministry of Water Development and Sanitation, available at: https://www.mwds.gov.zm/.
[62] Ministry of Health, available at: https://www.moh.gov.zm.
[63] Ministry of Local Government and Rural Development, available at: https://www.mlgrd.gov.zm/ .
[64] The National Water Supply and Sanitation Council, available at: https://www.nwasco.org.zm/ .
[65] The Water Resources Management Authority, available at: https://warma.org.zm/ .
[66] The Zambia Environmental Management Agency, available at: https://www.zema.org.zm/ .

Although each institution has a clearly defined mandate on paper, their functions often overlap in practice. A key example is the duplicated role of WARMA and ZEMA in regulating water pollution and effluent discharge, which leads to wasted effort and sometimes conflicting directives.

B. Regulatory confusion and blurred accountability

This fragmentation has created regulatory confusion and blurred accountability, especially in the local communities where service delivery occurs. The lack of integrated planning and shared data systems leads to duplication of efforts, inefficiencies in budget allocation, and slow implementation of water and sanitation programs. For example, the National Urban and Rural water supply and sanitation programs have repeatedly faced coordination delays because line ministries and regulators operate independently of one another.

C. Institutional autonomy over collaboration

Ministries often compete for resources and visibility than pursuing integrated outcomes, which weakens the policy coherence. Thus, while institutional frameworks exists, the persistence of overlapping mandates reflects structural and political barriers including limited incentives for inter-agency cooperation and weak oversight mechanisms.

3.3.2. LIMITED TECHNICAL AND FINANCIAL CAPACITY AT SUB NATIONAL LEVEL

Zambia's decentralization has failed to empower local governments, as transferred responsibilities lack commensurate funding, resources, or technical capacity. This leaves local authorities without the skilled staff or financial autonomy to deliver sustainable water and sanitation services, creating a dependency on delayed and insufficient central grants that results in project discontinuities and poor maintenance. Furthermore, donor projects that bypass local structures undermine ownership and sustainability. This gap between rhetoric and practice, combined with poor national-local coordination, perpetuates uneven development and threatens the achievement of SDG 6 in marginalized regions.

3.3.3. INADEQUATE DATA, MONITORING AND INFORMATION SYSTEMS

Zambia's water and sanitation sector is crippled by a data crisis, where fragmented and uncoordinated monitoring across multiple agencies leads to unreliable information that undermines SDG 6 tracking. This is exacerbated at the local level by a lack of digital tools and skilled staff, forcing a reliance on unsustainable, paper-based systems. Ultimately, this technical failure is rooted in a political lack of will for coordination and transparency, resulting in policy decisions based on poor data and the inefficient allocation of resources.

3.2.4. DEPENDENCE ON EXTERNAL FINCANCING AND UNPREDICTABLE BUDGET

Zambia's water and sanitation sector is heavily reliant on volatile donor funding, which prioritizes short-term projects over long-term system strength. This creates a cycle of dependency, as inconsistent national budgets and limited local revenue hinder financial sustainability. The core issue is a lack of long-term financial planning and robust domestic financing mechanisms. Without predictable funding, progress will remain fragile and externally driven.

3.4 GOVERNANCE CHALLENGES

3.4.1. WEAK ACCOUNTABILITY, TRANSPARENCY, AND CITIZEN VOICE

Weak governance, characterized by a systemic failure to enforce laws and hold officials accountable, remains the primary barrier to Zambia's water and sanitation goals. This is evident in regulatory bodies hindered by political interference and poor data, opaque financial management that fosters corruption, and tokenistic public consultations that exclude communities. This governance culture, which prioritizes bureaucracy over genuine public engagement, will continue to limit progress until it is replaced by meaningful transparency and citizen involvement.

3.4.2. POLITICAL ECONOMY AND SHORT-TERM PLANNING HORIZONS

Zambia's water and sanitation sector is profoundly shaped by a political economy that prioritizes short-term political gains over long-term sustainability. This leads to a

preference for visible projects like boreholes for immediate dividends, while neglecting essential but less visible sanitation and institutional capacity. Political patronage skews resource allocation and weakens merit-based management, undermining equitable and sustainable service delivery. Achieving SDG 6 therefore requires insulating sector planning from political cycles and strengthening evidence-based decision-making to ensure policy consistency and equitable outcomes.

3.4.3 LIMITED INTERGRATION OF CLIMATE RISK AND POLLUTION CONTROL

Zambia's water and sanitation governance has failed to effectively integrate climate resilience and environmental protection. Despite existing frameworks like the National Policy on Climate Change[67] and Environmental Management Act[68], their implementation remains poorly coordinated with WASH strategies, weakening adaptive capacity against droughts, floods, and pollution. Institutional fragmentation between ZEMA and WARMA creates unclear mandates that result in either overlapping or neglected water quality monitoring, permitting industrial effluent, agricultural runoff, and urban waste to contaminate vital rivers like the Kafue. This governance gap is compounded by limited financial and technical capacity for enforcement, while climate finance mechanisms remain underutilized. Achieving SDG 6 ultimately requires proactively embedding environmental sustainability and climate resilience throughout the entire water and sanitation sector.

3.5 STRATEGIES TO OVERCOME THE CHALLENGES

3.5.1 LEGAL AND REGULATORY STRATEGIES

To overcome the challenges faced by Zambia to achieve SDG 6 by 2030, there's need for law centred strategies that will help in the removal of legal barriers which will accelerate progress on SDG 6. This can be done by modernising and harmonising the legal framework, clarification of institutional mandates and creation of stronger

[67] Ministry of National Development Planning, National Policy on Climate Change 2016. Available at: https://www.seczambia.org.zm/wp-content/uploads/2025/07/National-policy-on-Climate-Change_2016.pdf .
[68] Act No. 12 of 2011.

coordination duties, strengthen pollution control, enforcement and the polluter pays principle, embed monitoring, data and transparency into law and many others.

A. Modernisation and harmonisation of the legal framework

Harmonizing the Water Supply and Sanitation Act with the Water Resources Management Act into a single framework would eliminate overlaps and clarify institutional roles. Main barriers are institutional resistance and political inertia, as ministries are reluctant to cede authority. Law reform should be sequenced and consultative, starting with joint policy reviews and inter-ministry working groups before legislative consolidation. Modernization should also incorporate climate resilience, technological change, and human rights standards, aligning Zambia's framework with international commitments. Legal reform is a continuous process, not a one-time exercise.

B. Clarification of institutional mandates and creation of stronger coordination duties

To address institutional overlap, Zambia needs a legally established inter-agency coordination mechanism under the Ministry of Water Development and Sanitation. This body should have statutory authority for data sharing, policy alignment, and budget planning across MWDS, ZEMA, WARMA, and NWASCO, backed by legal obligations rather than voluntary collaboration. Past reforms show coordination without enforcement fails, so legal frameworks should include accountability provisions, where noncompliance with coordination duties triggers administrative sanctions or funding penalties.

C. Strengthening of pollution control and enforcement of the polluter pays principle

Zambia's water quality deterioration is mainly a governance issue, not a legislative gap. The Environmental Management Act provides for pollution control, but weak enforcement allows industries to discharge effluents with minimal consequence. Strengthening enforcement requires greater budgetary independence for ZEMA and WARMA, training inspectors, and performance-based enforcement linking funding to compliance. The polluter pays principle should be applied via environmental liability insurance and remediation funds, ensuring polluting industries, not taxpayers or communities, cover restoration costs.

D. Embed monitoring, data and transparency into law

Promoting data transparency and monitoring mechanisms is a legal strategy to overcome challenges toward SDG 6. Weak monitoring and fragmented data hinder policy implementation and accountability. Zambia should introduce laws making data reporting mandatory for all service providers, including utilities, local authorities, and community organizations. These laws should require regular submission of standardized data on water access, service quality, sanitation coverage, and affordability, disaggregated by gender, age, disability, and location, to track equity, identify underserved populations, and guide targeted interventions.

3.5.2 INSTITUTONAL STRENGTHENING

One important tactic for resolving the institutional obstacles preventing Zambia from reaching Sustainable Development Goal 6 (SDG 6) on clean water and sanitation by 2030 is institutional strengthening. For better governance, better service delivery, and sustainable management of water and sanitation resources, institutions must be strengthened.

A. Building technical and human resource capacity

A key priority is enhancing technical and human resource capacity, particularly at subnational levels where services are delivered. Local authorities and utilities often face shortages of qualified engineers, water and sanitation specialists, and data professionals. Institutional strengthening thus depends on ongoing professional development, targeted technical training, and strategies to recruit and retain skilled staff in underserved rural and peri-urban areas. To ensure long-term impact, capacity-building initiatives should be integrated into institutional budgets and donor-funded programs, moving beyond short-term interventions.

B. Improvising financial and operational management system

Institutional strengthening should also enhance financial and operational systems. Weak financial management and reliance on donor funding hinder long-term planning. Improving budgeting, revenue collection, and accountability can boost sustainability. Allowing utilities to set socially sensitive, cost-reflective tariffs increases financial

autonomy, while tools like performance contracts and audits promote transparency and efficiency.

However, financial reform must recognize the socioeconomic realities of Zambia's population. For instance, while cost-reflective tariffs improve sustainability, they must be coupled with targeted subsidies or social tariffs for low-income households to avoid excluding vulnerable groups from essential services.

C. Strengthening local government institutions

Enhancing local government institutions is essential for realizing SDG 6, as they play a frontline role in delivering water and sanitation services. Many local authorities face constraints in autonomy, funding, and technical expertise, limiting their effectiveness. Empowering them through decentralized decision-making and targeted capacity-building can strengthen their ability to manage and sustain services. This effort can be reinforced by fostering peer learning networks among municipalities and promoting partnerships with community groups and private sector actors.

3.5.3 FINANCING AND INCENTIVES

Financing and incentives are key to addressing Zambia's financial and institutional barriers to achieving SDG 6 by 2030. To overcome the challenges, Zambia should boost domestic funding through dedicated sector funds, better budget allocations, and innovative tools like environmental levies and climate finance.

A. Expanding Domestic and Climate Financing

Zambia can strengthen financial resilience by creating a National Water and Sanitation Fund that consolidates donor and domestic resources for equitable allocation. Integrating water and sanitation into climate finance frameworks would also unlock new funding streams for climate-resilient infrastructure. The Ministry of Finance, in collaboration with MWDS, could explore sovereign green bonds or environmental levies to raise local capital.

B. Public–Private Partnerships (PPPs) and Blended Finance

Encouraging PPPs can bridge infrastructure gaps, but previous PPP projects in Zambia have faced governance challenges due to poor risk-sharing and lack of transparency. To make PPPs viable, the government must establish clear regulatory frameworks and

performance benchmarks to ensure accountability and fair returns. Blended finance models, where concessional donor funding de-risks private investment, could enhance service delivery in rural and peri-urban areas.

C. Incentive-Based Governance

Performance-based funding mechanisms can reward local authorities and utilities that demonstrate improved service coverage, efficiency, or innovation. Incentives tied to measurable indicators such as non-revenue water reduction or sanitation coverage would encourage results-oriented management and institutional learning.

3.5.4 GOVERNANCE, ACCOUNTABILITY AND INCLUSION

To accelerate progress toward SDG 6 by 2030, it is essential to strengthen governance, accountability, and inclusion by aligning policies, empowering local authorities, and fostering multi-stakeholder collaboration. Key strategies include establishing a Water and Sanitation Accountability Framework managed by NWASCO and the Auditor General to enforce performance standards through public audits and citizen report cards; promoting inclusive citizen engagement via community scorecards, grievance redress systems, and gender-sensitive planning to empower marginalized groups; and enhancing transparency through open-access data dashboards on water quality, budgets, and SDG 6 progress to build trust and incentivize better performance among utilities and councils.

3.5.5 ACCELLERATE SERVICE DELIVERY THROUGH PRAGMATIC, LOW-REGRET ACTIONS

Accelerating service delivery through pragmatic, low-regret actions is essential for Zambia to address persistent barriers to SDG 6. Given limited funding and capacity, the focus should be on affordable, scalable solutions that yield immediate results and long-term sustainability. These include expanding boreholes, solar-powered systems, and decentralized sanitation options such as improved pit latrines and fecal sludge management. Rehabilitating existing infrastructure can quickly increase access at lower cost, while partnerships with communities, local authorities, and the private sector, supported by data-driven planning, can enhance implementation and ensure equitable, sustainable outcomes.

3.6 CONCLUSION

While Zambia has developed comprehensive strategies to address its legal, institutional, and governance challenges, their success remains uncertain without a fundamental transformation in governance and accountability. Proposed reforms in legal harmonization, institutional strengthening, and financing, though necessary, are insufficient on their own. The most persistent barriers are weak implementation capacity and political commitment, where reforms often stall due to bureaucratic resistance and fragmented coordination. Furthermore, fiscal unpredictability and donor dependence undermine financial sustainability. Ultimately, achieving SDG 6 requires a foundational shift from politically driven management to a system rooted in accountability, evidence-based decision-making, and citizen participation, as only this can overcome the fragmentation and inertia that have historically limited progress.

CHAPTER FOUR

LESSONS ZAMBIA CAN LEARN FROM INTERNATIONAL LEGAL AND INSTITUTIONAL FRAMEWORKS TO ENHANCE ITS POLICIES FOR ACHIEVING SDG 6 BY 2030

4.1 INTRODUCTION

This chapter transitions from Zambia's internal water governance challenges to a focused analysis of international legal and institutional frameworks. It examines the experiences of Rwanda and South Africa, highlighting how their approaches to regulation, financing, and monitoring systems have advanced progress toward SDG 6. These models offer practical strategies for improving regulation, accountability, and service delivery. this chapter identifies transferable strategies that can inform Zambia's efforts to strengthen its own frameworks. This comparative analysis aims to inform more effective, inclusive, and coherent policies for achieving SDG 6 by 2030.

4.2 RWANDA'S FRAMEWORK

4.2.1 LAW ON ENVIRONMENT No. 48 of 2018

The main purpose for this legislation is to determine the modalities for protecting, conserving and promoting the environment. This legislation is important to the progress of SDG 6 in Rwanda because it outlines the protection of the environment by setting out pollution control provisions that have been implemented in the country in order to be one of the outstanding countries in the progress of SDG 6 in Africa. For instance, article 12 of the law provides for the protection of water resources which states that water resources must be protected from any source of pollution. Nonetheless, Article 17 outlines the regulatory framework for liquid waste management, mandating that the collection, transport, and disposal of wastewater follow specific guidelines issued by the competent authority. It requires all sewage and liquid waste to be treated in designated facilities to enable reuse for hygiene, sanitation, and development purposes. Industrial wastewater containing chemicals must undergo pre-treatment before entering these facilities. Only water that has been purified to approved standards may be discharged into natural water bodies such as streams or lakes. This mandates that waste should e disposed only when it is purified and safe to be released in the environment. The implementation of this article

has made the state to regulate what need to be disposed into the water bodies of Rwanda and has lessened the environmental and human health risk which Zambia can learn from Rwanda in the instance of the discharge of waste into water bodies because of the recent case along Kafue River where a mining company discharged harmful waste into the water body which affected the environment and human health. This can be prevented by making sure that only the purified waste can be released in the water bodies.

Lastly, article 37 provides for water and sanitation which states that the State is obligated to protect water resources and promote sanitation through a range of targeted measures. These include constructing public toilets to enhance hygiene, developing policies for sanitation in buildings, public spaces, roadsides, and households, and regulating infrastructure such as dams, sewerage systems, pipelines, landfills, and treatment plants. It must also safeguard catchment areas around drinking water sources, designate protected zones for conserving and rehabilitating water systems including riverbanks, lakes, and wetlands and implement strategies that improve water quality, increase supply, and prevent wastage. This entails that a comprehensive mandate for the State to safeguard water resources and promote sanitation through both infrastructure and policy measures. It reflects a multi-dimensional approach that integrates hygiene promotion, regulatory oversight and environmental protection. Zambia can learn from this by making sure that they are safeguarding catchment around drinking water sources by making sure there's enough drainage systems to avoid stagnant water lingering around.

4.2.2 LAW DETERMINING THE USE AND MANAGEMENT WATER RESOURCES IN RWANDA No. 49 of 2018

The main purpose of this law is to determine the use and management of water resources in Rwanda while also creating key governance institutions the National Water Consultative Committee and catchment committees whose structure and functions are defined by a Prime Minister's Order. This legal framework promotes coordinated oversight and institutional accountability in water governance. It further highlights under article 6 of the law for the protection and use of water resources which states that protection and rational use of water resources constitute the obligations of each and every person. This law promotes collective accountability, encouraging behavioural change and community

participation in sustainable water use. This aligns with principles of environmental citizenship and supports SDG 6 by reinforcing the idea that achieving water security requires both institutional action and public engagement.

Article 11 provides for the responsibilities of decentralised administrative entities which states that Decentralized administrative entities are responsible for planning activities that enhance both the quantity and quality of water resources. They contribute to the protection of water bodies, as well as the rational development and use of wetlands. Their duties also include safeguarding and maintaining equipment used for testing, analyzing, and measuring river and lake waters. Additionally, they support the development of catchment management plans and play a key role in preventing risks that could obstruct water flow or lead to flooding. This entails that decentralized administrative entities play a vital role in integrated water resource management by planning activities that enhance both the quantity and quality of water resources, protecting diverse ecosystems. his mandate strengthens local governance by promoting subsidiarity, enabling tailored responses to community needs. It also opens pathways for participatory planning and inclusive decision-making. Furthermore, article 12 the obligation of the population which states that Obligations of the population as regards protection and rational use of water resources are the following: to protect and rationally use water resources, through individual or collective initiatives; to inform local authorities a phenomenon that may have adverse impact on water resources; to contribute to protecting and maintaining equipment for testing the waters of lakes and rivers. These obligations reflect a participatory and accountability-driven approach to water governance, emphasizing the role of citizens as active stewards of water resource.

4.2.3 REGULATION GOVERNING FAECAL SLUDGE MANAGEMENT IN RWANDA

Rwanda’s faecal sludge management regulation establishes a comprehensive and enforceable framework that governs the collection, transportation, and treatment of sludge to ensure effective sanitation services. It assigns responsibility to designated utilities, requiring them to develop operational desludging plans based on surveys of containment facilities and to communicate these plans to customers. This proactive

approach reduces health and environmental risks associated with delayed desludging and enhances governance efficiency by promoting structured service delivery and transparency. The regulation also mandates that treatment facilities be sited away from public nuisances and operated by authorized personnel, reinforcing environmental safeguards and institutional accountability.

Worker safety is a central feature of the regulation, with clear requirements for training, protective gear, and appropriate equipment for sludge handling and transport. These provisions not only protect sanitation workers but also institutionalize accountability among service providers. In parallel, the regulation places obligations on premise owners to install and maintain technically sound on-site sanitation systems such as ventilated pit latrines and watertight septic tanks with desludging access and to ensure these facilities are free from harmful waste that could disrupt treatment processes. This shared responsibility between utilities and households fosters a culture of compliance and reinforces the integrity of the sanitation value chain.

Zambia can draw valuable lessons from Rwanda's model by adapting its core principles to strengthen national sanitation governance. Institutionalizing desludging schedules and containment surveys would improve planning and reduce service gaps, while enforcing minimum infrastructure standards could enhance system reliability. Integrating public awareness campaigns and stakeholder engagement mechanisms would promote community participation and ensure that sanitation services are responsive and inclusive. By embedding these elements into its regulatory framework, Zambia can improve coordination, accountability, and service delivery in its faecal sludge management systems, accelerating progress toward SDG 6.

4.3 RWANDA'S INSTITUTIONAL FRAMEWORK

Rwanda's water and sanitation governance is recognized as one of the most effective and well-structured in Sub-Saharan Africa. Its strength lies not in the number of institutions, but in their strategic integration and alignment with national goals. The Rwanda Water Resources Board, under the Ministry of Environment, centrally coordinates policy, regulation, and implementation, streamlining functions and minimizing

overlapping mandates a persistent issue in Zambia. This unified approach enables timely, data-informed decisions and fosters collaboration across sectors.

A distinctive strength of Rwanda's framework is the vertical and horizontal coordination among institutions. At the vertical level, national policies are operationalized through catchment committees and local government structures that directly engage communities in planning and monitoring water services. This bottom-up approach enhances accountability and citizen participation, contrasting Zambia's top-down model where local councils often lack the autonomy or resources to act effectively. Horizontally, coordination is achieved through inter-ministerial task forces that align water management with health, education, and environmental objectives, ensuring policy coherence across sectors.

Rwanda's integrated funding mechanism is another essential element. Under a unified sector-wide strategy, the government places a high priority on consistent domestic funding in addition to donor alignment. By combining resources, efficiency is increased and fragmentation is decreased. For instance, development partners make sure that financing supports the SDG 6 agenda by working within government-led initiatives. In contrast, Zambia still mostly depends on donor-driven or project-specific funding, which results in irregularities and low sustainability. Zambia might increase the dependability of infrastructure and service delivery investments by implementing Rwanda's coordinated financial planning.

Rwanda's monitoring and evaluation system, overseen by the Prime Minister's Office, links institutional performance to measurable targets through real-time data collection and annual performance contracts that hold ministries and local governments accountable. This results-oriented approach has significantly advanced progress toward universal water and sanitation access. In contrast, Zambia's institutions often lack clear benchmarks and integrated data systems, limiting policy learning and enforcement. Adopting a similar M&E culture in Zambia could strengthen accountability and promote evidence-based governance.

In summary, Rwanda's success derives from institutional coherence, integrated financing, and performance accountability, the features Zambia must emulate by strengthening coordination, decentralizing implementation, and institutionalizing data-driven governance.

4.4 SOUTH AFRICA'S LEGAL FRAMEWORK

4.4.1 THE CONSTITUTION OF SOUTH AFRICA

Article 27(1)(b) of the constitution states that everyone has the right to have access to water. The recognition of the access to water in the constitution is legally binding meaning citizens can challenge the inadequacies of the delivery of the access to water. This constitutional provision is operationalized through the Water Services Act, which assigns clear duties to Water Services Authorities and mandates service planning through Water Services Development Plan. Zambia can learn from this by recognising the right to access to water as a constitutional right that can help in the implementation and water governance in the country.

4.4.2 THE WATER SERVICES ACT OF 1997

The Water Services Act of 1997 aims to ensure universal access to basic water supply and sanitation, establish national standards, regulate service institutions, and promote sustainable water management.

A. Section 3 – Right of access to basic water supply and basic sanitation

This section states that Everyone has a right of access to basic water supply and basic sanitation. Water services institutions are required to take reasonable steps to fulfill these rights, and each water services authority must include measures to realize them in its development plan. These rights, however, are subject to the limitations outlined in the Act. This section strengthens South Africa's water governance framework by translating the constitutional right to water into actionable legal obligations and institutional responsibilities. It does so through several key legal innovations and accountability mechanisms. It codifies the right of access to basic water supply and sanitation, aligning national law with international human rights standards. Unlike aspirational declarations,

this right is enforceable and places a positive duty on water services institutions to take reasonable measures to fulfill it.

By explicitly recognizing the right to water and sanitation in its Constitution and operationalizing it through the Water Services Act, South Africa ensures that service delivery is both a legal obligation and a measurable public commitment. Zambia could follow suit by embedding the right to water in its Constitution or primary legislation, thereby elevating its enforceability and aligning with global human rights norms.

4.5 SOUTH AFRICA'S INSTITUTIONAL FRAMEWORK

South Africa's water and sanitation governance is anchored in constitutional authority, decentralization, and strong regulatory systems. The Department of Water and Sanitation leads nationally on policy, regulation, and oversight, working closely with Water Boards, WSAs, and CMAs in a layered structure that links policy, service delivery, and resource management. South Africa's framework clearly defines and connects institutional roles through statutory coordination.

South Africa's institutional strength stems from a decentralized yet accountable governance model. Water Services Authorities mainly municipalities are legally tasked with delivering water and sanitation services within set boundaries, allowing them to address local needs while complying with national standards from the Department of Water and Sanitation. Robust financial controls and performance monitoring uphold transparency and ensure compliance, balancing local autonomy with national oversight. In contrast, Zambia's decentralization is mostly administrative, lacking fiscal authority and institutional independence. To achieve similar outcomes, Zambia must enhance the technical and financial capacity of its local governments to sustainably manage water services.

South Africa also benefits from a functional regulatory ecosystem that promotes inter-agency coordination. The DWS collaborates with CMAs for water resource management, while Water Boards handle bulk supply and technical support to municipalities. These entities are linked through legally mandated reporting and oversight arrangements, which minimize overlaps and enhance operational efficiency. Zambia's institutional actors, such

as the Ministry of Water Development and local utilities, often operate in silos, leading to inefficiency and policy disconnection. A clearer delineation of roles, supported by enforceable coordination protocols, would address this fragmentation.

Another defining feature of South Africa's framework is its integrated financing strategy, combining national budget allocations, ring-fenced municipal grants, and cost-recovery tariffs. This approach promotes financial sustainability while maintaining equitable access. The country's use of cross-subsidization and regulated tariffs ensures that poor households remain protected while service providers recover operational costs. Zambia's heavy reliance on external aid and underpriced service tariffs has undermined both cost recovery and maintenance capacity. Establishing a transparent financing model that links investment, affordability, and service quality is therefore critical for Zambia.

Finally, South Africa's institutions embed stakeholder participation and innovation within policy implementation. Through the Water Research Commission and collaborative partnerships, evidence-based research informs continuous reform and technological advancement. Zambia can draw from this model by fostering research-policy linkages and innovation hubs to inform regulatory practice and enhance institutional learning.

In summary, South Africa's institutional framework succeeds because of its legal clarity, fiscal devolution, and research-driven innovation, the areas where Zambia must evolve from fragmented governance toward coordinated, accountable, and financially sustainable institutions.

4.6 COMPERATIVE INSIGHT AND APPLICATION TO ZAMBIA

A comparison of the two models shows that while Rwanda exemplifies centralized coordination and performance discipline, South Africa demonstrates decentralized accountability and fiscal sustainability. Both frameworks share three underlying strengths:

1. Clear institutional mandates supported by legal instruments;
2. Integrated financing and planning mechanisms that align national and local priorities; and
3. Accountability systems driven by data and performance evaluation.

For Zambia to replicate similar success, it must bridge the institutional gaps identified in Chapters Two and Three by adopting a hybrid model that combines Rwanda's centralized coordination with South Africa's constitutional recognition of the right to water and decentralized accountability. This would involve:

- Establishing a National Water and Sanitation Coordination Council under the Office of the Vice President to ensure inter-ministerial alignment
- Recognizing the right of sufficient water and sanitation as constitutional rights.
- Creating legally backed catchment-level authorities with fiscal autonomy.
- Institutionalizing a sector-wide financing framework to integrate donor and domestic resources.
- Embedding data-driven monitoring systems to ensure evidence-based policymaking.

Such reforms would not only address Zambia's current institutional fragmentation but also anchor its governance system in accountability, sustainability, and inclusivity the key conditions for achieving SDG 6 by 2030.

4.7 CONCLUSION

Both Rwanda and South Africa provide valuable lessons that can be adapted to enhance the Zambian water and sanitation sector to meet SDG 6. Their success emphasizes the value of enshrining water and sanitation as constitutional rights, investing in data-driven governance, and managing institutional coordination. With such strategies, Zambia will create more accountable, inclusive and effective system and progress towards SDG 6 can be accelerated.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter consolidates the findings and insights presented in the preceding chapters to demonstrate how they collectively address the research problem identified in Chapter One namely, the misalignment of Zambia's legal and institutional frameworks governing water and sanitation with the targets of Sustainable Development Goal 6 (SDG 6). The chapter moves beyond a simple summary to provide an integrated synthesis of evidence, showing how the study's analysis contributes to knowledge, policy, and practice in water governance. It further outlines recommendations for strengthening Zambia's legal, institutional, and policy mechanisms, grounded in empirical findings and comparative lessons from Rwanda and South Africa.

5.2 GENERAL CONCLUSION

The study has demonstrated that while Zambia possesses a legal and institutional framework governing water and sanitation, these structures remain fragmented, under-resourced, and weakly enforced. Consequently, the nation's progress toward SDG 6 by 2030 has been constrained by overlapping mandates, insufficient funding, poor coordination, and limited human capacity. The analysis revealed that the absence of harmonized legal instruments and coherent institutional arrangements undermines accountability and the effectiveness of water and sanitation services.

However, the study also found that Zambia's situation is not without hope. Lessons drawn from Rwanda and South Africa show that progress is possible when legal and institutional frameworks are not only comprehensive but also adaptive and inclusive. The comparative analysis underscores that clear legal recognition of the right to water and sanitation, investment in institutional capacity, and innovative technologies can transform water governance outcomes. In Zambia's context, this means prioritizing reforms that strengthen enforcement, improve coordination among agencies, and embed accountability mechanisms at all levels.

Therefore, the study concludes that achieving SDG 6 in Zambia requires a multidimensional approach anchored in legal reform, institutional strengthening, and the integration of evidence-based practices. Only through coherent policies and effective implementation can Zambia transform its frameworks from being largely declarative to genuinely operational in achieving universal access to water and sanitation.

5.3 SUMMARY OF CHAPTERS

This thesis is structured into five chapters, each examining the challenges facing Zambia's water and sanitation sector and its progress toward achieving Sustainable Development Goal 6 by 2030. It critically explores the country's legal and institutional frameworks, drawing lessons from international standards to identify gaps and opportunities for reform.

5.3.1 CHAPTER ONE

This thesis's foundation was established in the first chapter by identifying the legal issue. This chapter outlined the study's primary goal, which is to examine the obstacles and possibilities Zambia confronts in reaching Sustainable Development Goal 6 by 2030 and to learn from global norms that can aid in advancement. As a result, three additional goals were derived from the primary goals and comprised the three chapters that are the main emphasis of this thesis. This chapter further emphasized the importance of the study, which aims to fill in the gaps in Zambian legal and policy studies on SDG 6 by examining how national frameworks and practices mirror international commitments on water and sanitation.

5.3.2 CHAPTER TWO

Chapter Two examined Zambia's national laws and policies and found that while they acknowledge water and sanitation as developmental priorities, weak enforcement, limited financing, and fragmented institutional coordination have undermined their effectiveness.

5.3.3 CHAPTER THREE

It deepened the analysis by diagnosing governance and institutional challenges, revealing structural overlaps, poor accountability, and insufficient political will as major barriers. It underscored the need for harmonised legislation and stronger inter-agency coordination.

5.3.4 CHAPTER FOUR

Chapter 4 provided a comparative lens, drawing lessons from Rwanda and South Africa. These countries have advanced toward SDG 6 through coherent legal frameworks, decentralised institutional coordination, investment in human capacity, and technological innovation. These best practices offer Zambia practical insights for reforming its own systems.

5.4 RECOMMENDATIONS

Having discussed this thesis “an investigation on the challenges and opportunities to achieve sustainable development according to the SDG 6 by 2030: lessons drawn from international standards” it is vital to provide recommendations that will be enhancement of the best practices identified and solutions to the challenges pinpointed in this study. Here are some of the recommendations of this study:

5.4.1 Legal reform and institutional enhancement

Zambia should urgently review and harmonise its existing water and sanitation laws particularly the Public Health Act and Water Supply and Sanitation Act to align with international standards and embed the right to water and sanitation in national legislation. As shown in Rwanda’s 2018 environmental and water management laws, strong statutory clarity and enforceable obligations promote accountability and sustainability. Legal amendments should define institutional roles more precisely to eliminate overlapping mandates that were identified in Chapter Three.

5.4.2 Strengthening institutional coordination and accountability (Medium)

Drawing from South Africa’s integrated approach under the Department of Water and Sanitation, Zambia should establish a central coordinating authority responsible for policy alignment, data management, and enforcement oversight. This responds directly to the governance gaps identified in Chapter Three, where overlapping mandates and weak accountability mechanisms were found to hinder implementation. Institutional linkages between ministries, local councils, and water utilities should be reinforced through legally backed coordination frameworks.

5.4.3 Investment in human resources and capacity building

The investment in human resources is crucial for the SDG 6 progress. There is need for prioritisation of capacity building and professional development through continuous training, scholarships and partnerships with universities and other international organisations. Empowering local authorities and community-based organisations with adequate human and technical capacity can improve the operation and maintenance of water and sanitation systems. Investing in human resources will ensure the long-term sustainability of Zambia' water and sanitation sector.

5.4.4 Leverage Technology and Innovation

Zambia should adopt digital tools such as Geographic Information Systems (GIS), Artificial Intelligence (AI), and real-time monitoring platforms to strengthen water management, track service delivery, and improve transparency. As observed in Rwanda's institutional framework, AI-enabled data systems support evidence-based decision-making and efficient resource allocation. Incorporating such technology will close the data gap identified in Chapter Two and improve national planning and accountability.

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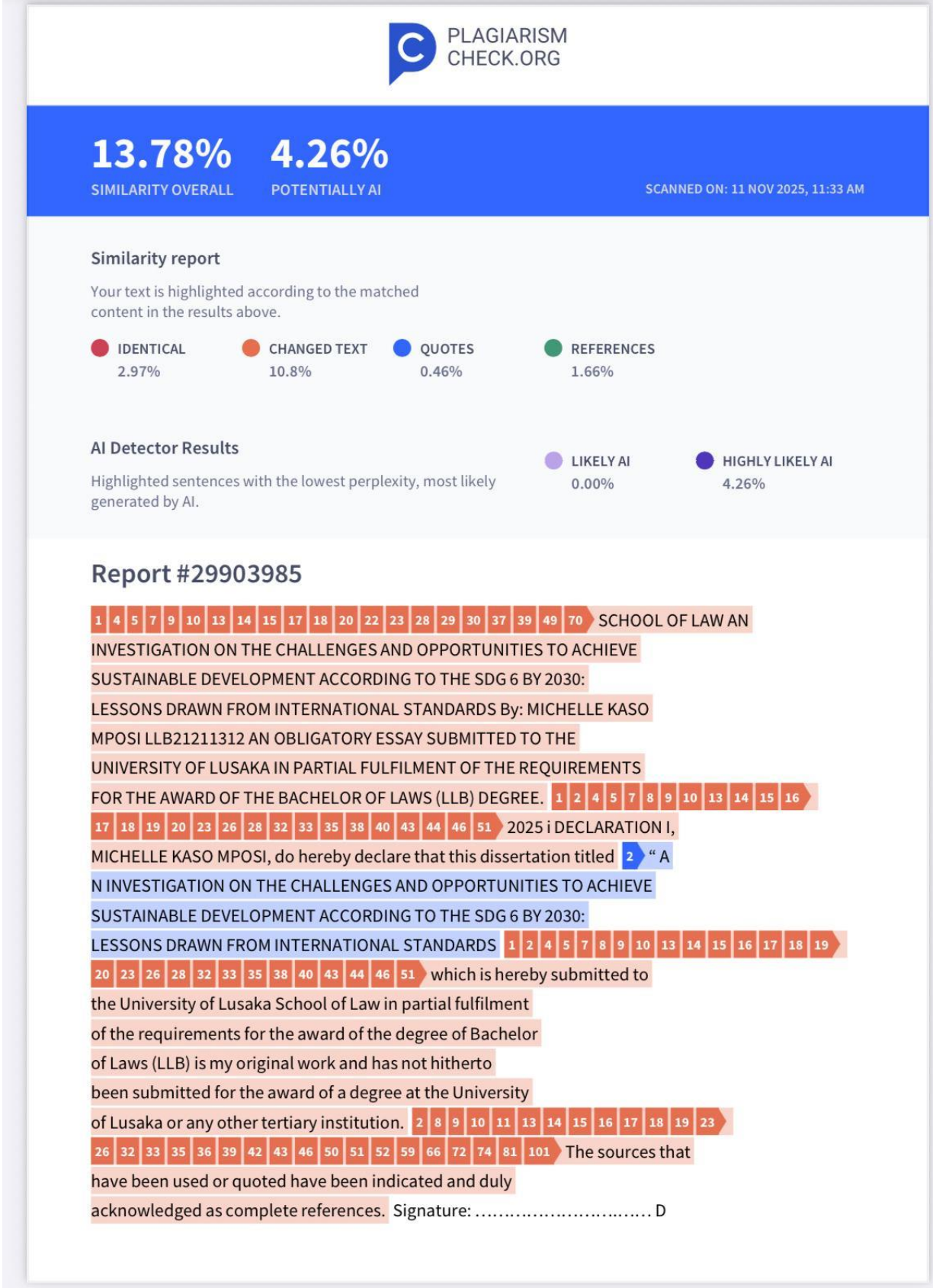
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1 4 5 7 9 10 13 14 15 17 18 20 22 23 28 29 30 37 39 49 70 SCHOOL OF LAW AN INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS By: MICHELLE KASO MPOSI LLB21211312 AN OBLIGATORY ESSAY SUBMITTED TO THE UNIVERSITY OF LUSAKA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF LAWS (LLB) DEGREE. 1 2 4 5 7 8 9 10 13 14 15 16 17 18 19 20 23 26 28 32 33 35 38 40 43 44 46 51 2025 i DECLARATION I, MICHELLE KASO MPOSI, do hereby declare that this dissertation titled 2 " A N INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS 1 2 4 5 7 8 9 10 13 14 15 16 17 18 19 20 23 26 28 32 33 35 38 40 43 44 46 51 which is hereby submitted to the University of Lusaka School of Law in partial fulfilment of the requirements for the award of the degree of Bachelor of Laws (LLB) is my original work and has not hitherto been submitted for the award of a degree at the University of Lusaka or any other tertiary institution. 2 8 9 10 11 13 14 15 16 17 18 19 23 26 32 33 35 36 39 42 43 46 50 51 52 59 66 72 74 81 101 The sources that have been used or quoted have been indicated and duly acknowledged as complete references. Signature: ..... D

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RESEARCH CLEARANCE FORM

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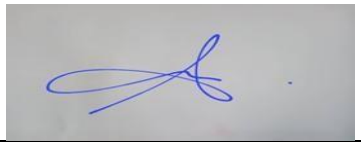
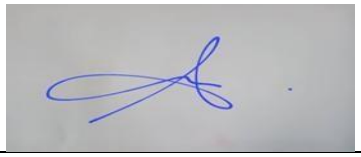
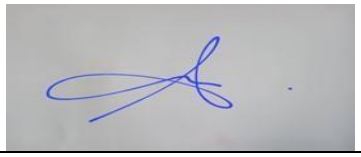
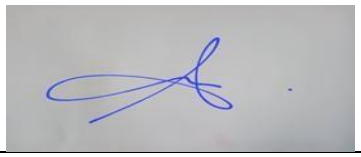
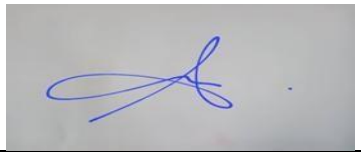
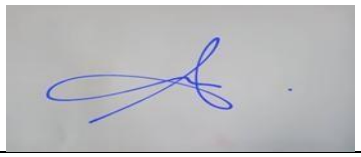
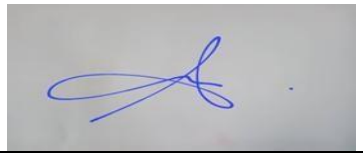
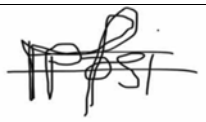
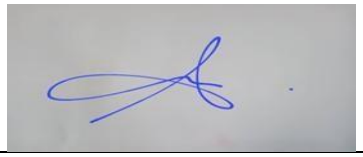
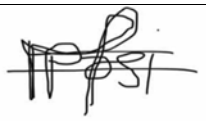
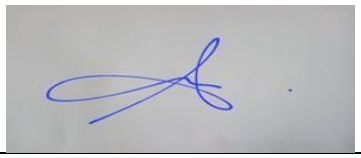
SUPERVISOR: …ANDREW CHAKANIKA**… TOPIC: …** AN INVESTIGATION ON THE CHALLENGES AND OPPORTUNITIES TO ACHIEVE SUSTAINABLE DEVELOPMENT ACCORDING TO THE SDG 6 BY 2030: LESSONS DRAWN FROM INTERNATIONAL STANDARDS……

Stage	**Comments**	**Supervisor's Signature & Date**	**Student's Signature & Date**
Research Proposal	**Cleared with minor corrections**	 **31/07/2025**	 **31/07/2025**
Chapter 1 – Introduction	**Candidate had to rework the entire chapter and some comments still remain not addressed**	**27/08/2025** 	**27/08/2025** 
Chapter 2 –	**Cleared after guidance**	**16/09/2025** 	**16/09/2025** 
Chapter 3 –	**Cleared**	**14/10/2025** 	**14/10/2025** 

Chapter 4 –	**Cleared after effecting corrections**	**31/10/2025** 	**31/10/2025** 
Chapter 5 – Conclusions & Recommendations	**Cleared**	**31/10/2025** 	**31/10/2025** 
Table of Contents, Bibliography and Appendices	**Cleared**	**5/11/2025** 	**5/11/2025** 
First Draft	**cleared**		
Second Draft	**Cleared**		
Final Draft	**Cleared for final submission**	**12/11/2025** 	**12/11/2025** 

Please return this form to the LLB Research Coordinator at the end of the research.